

A New *Ashmunella* (Gastropoda: Pulmonata: Polygyridae) from Sonora, Mexico

by

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Abstract. A new species of *Ashmunella* is described from near Cananea in Sonora, Mexico, and comparisons are made with the closely related Chiricahuan species.

INTRODUCTION

This paper describing a new species of *Ashmunella* is part of a continuing study of the morphology and systematics of members of this genus. For comparative material I have relied heavily on the collection of Walter B. Miller as well as personal collections over the last 22 years.

Ashmunella milesi Reeder, sp. nov.

(Figures 1-5)

Diagnosis: A medium-sized, depressed *Ashmunella* with a tridentate aperture and having an additional parietal callous in about 50% of the individuals; with the upper chamber of the bipartite penis narrower and longer than the lower chamber; with relatively long epiphallus and short epiphallic caecum.

Description of shell of holotype: Shell (Figures 1-3) of moderate size, depressed, lenticulate with relatively sharp shoulder and with open umbilicus, umbilicus contained about 6.0 times in the diameter of the shell. Color pale brown. Aperture with lip sharply reflexed, narrow, having two narrow basal teeth and a single, broader palatal tooth. Parietal wall with a prominent tooth and a smaller callous above the main tooth lying somewhat deeper within the aperture. Embryonic shell smooth with postembryonic whorls showing faint radially arranged bumps with numerous spirally arranged incised lines, the latter becoming prominent on the body whorl both above the periphery and on base of shell. Prominent radial growth ridges on all major whorls.

Diameter 13.5 mm, height 6.2 mm, umbilicus 2.3 mm, number of whorls 6.5.

Reproductive anatomy of holotype: The genitalia (Fig-

ure 5) are typical of the genus, with a bipartite penis, a relatively long epiphallus, and a short epiphallic caecum. The penial retractor inserts on the epiphallus. The spermatheca is long and tubular without a terminal enlargement. Upper chamber of penis is about 2.5 times as long as the lower chamber from which it is sharply demarcated; lower chamber is considerably broader than the upper. Measurements of genital structures are as follows:

lower penis	2.0 mm
upper penis	5.4 mm
epiphallus	14.0 mm
epiphallic caecum	2.4 mm
spermatheca	19.6 mm

Variations in paratypes: A total of 39 adult shells was examined. These ranged in diameter from 12.1 mm to 13.6 mm with an average of 12.85 mm. The height ranged from 5.1 mm to 6.5 mm with an average of 5.95 mm. All of the unworn specimens exhibited the characteristic radial growth ridges and impressed spiral lines, and most exhibited elongate pustules (Figure 4). A total of 19 of the shells exhibited the extra parietal callous to some degree.

Description of types: Holotype: Santa Barbara Museum of Natural History No. 35609. Paratypes: The Academy of Natural Sciences of Philadelphia No. 392397; U.S. National Museum No. 860573; collections of C. D. Miles, W. B. Miller, and R. L. Reeder.

Type locality: Northern Sonora, Mexico, west of Cananea; south-facing talus slope along road to microwave tower, Sierra Mariquita; 31°2.0'N, 110°22.4'W; elevation ca. 2000 m. Collected 17 May 1988 by S. J. McKee, W. B. Miller, and R. L. Reeder.

Discussion: Species of *Ashmunella* were reviewed by



Explanation of Figures 1 to 4

Figures 1–3. *Ashmunella milesi* sp. nov. Shell of holotype SBMNH 35609; diameter 13.5 mm. Aperture, apical, and umbilical views respectively. Figure 4. SEM view of typical sculpture (paratype).

PILSBRY (1940) with additional comments provided by BEQUAERT & MILLER (1973) and MILLER (1983). *Ashmunella milesi* is clearly related to the Chiricahuan species of Arizona as indicated by the narrow upper penis shared with those species. It differs from all of those species, however, in that the upper division of the penis is consistently longer. In the specimens dissected, the upper penis is 2.5 times or more the length of the lower portion. No species in the Chiricahuan group has an upper penis greater than 1.5 times that of the lower division.

The shell of *Ashmunella milesi* resembles most closely that of *Ashmunella lenticula* Gregg (see GREGG, 1953). Both species are similar in overall size, the size of the umbilicus, and the sharpness of the shoulder. The parietal tooth is sinuous in *A. lenticula* and relatively straight in *A. milesi*. The extraparietal callous present in many specimens of *A. milesi* is never present in *A. lenticula*.

Distribution and habitat: *Ashmunella milesi* is known only from the type locality, although thorough exploration

of the Sierra Mariquita is incomplete. Vegetation at the type locality consists principally of *Rhus trilobata*, *Yucca shottii*, *Juniperus deppeana*, *Quercus arizonica*, *Quercus oblongifolia*, *Quercus emoryi*, and *Pinus cembroides*.

Etymology: This species is named for Dr. Charles D. Miles, who first introduced me to the study of land snails and sent me off to study them in my beloved desert.

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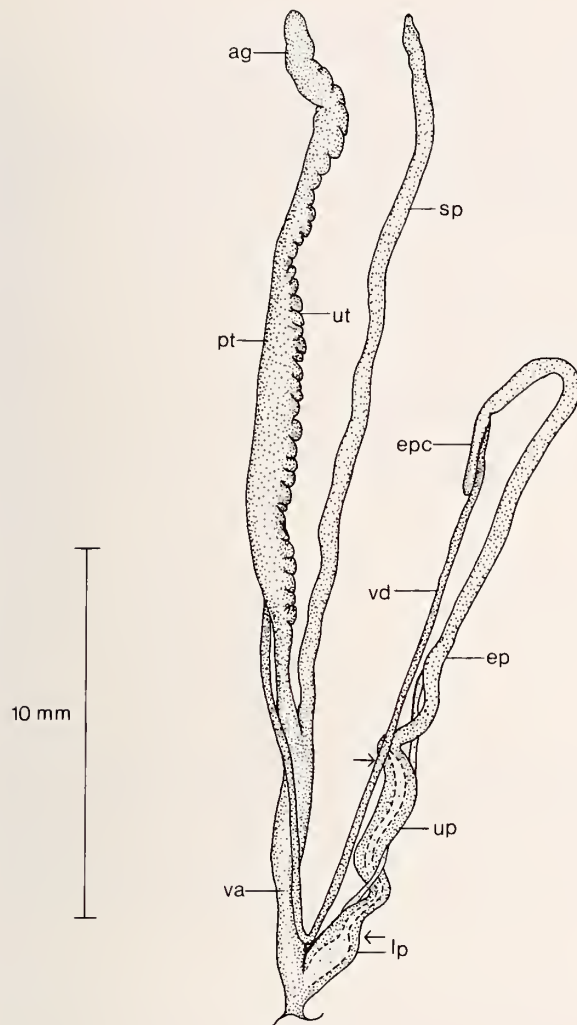


Figure 5

Anterior portion of reproductive system of holotype of *Ashmunella milesi* sp. nov. Drawing prepared from projection of stained wholemount, RLR 813A (SBMNH 35609). Key: ag, albumin gland; ep, epiphallus; epc, epiphallic caecum; lp, lower penis; pt, prostate; sp, spermatheca; up, upper penis; ut, uterus; va, vagina; vd, vas deferens. Arrows indicate limits of upper penis.